5.2 - BUFFER LAND USE ACTIVITIES

PURPOSE:

The purpose of this chapter is to provide local governments with guidance on what non-development related activities are prohibited within the 100-foot buffer and to provide visual examples of these uses and activities.

REGULATIONS:

§9VAC 10-20-130.3 states that:

> "The 100-foot wide buffer area shall be the landward component of the Resource Protection Area as set forth in subdivision B 5 of 9 VAC 10-20-80. Notwithstanding permitted uses, encroachments, and vegetation clearing, as set forth in this section, the 100-foot wide buffer area is not reduced in width. To minimize the adverse effects of human activities on the other components of the Resource Protection Area, state waters, and aquatic life, a 100-foot wide buffer area of vegetation that is effective in retarding runoff, preventing erosion, and filtering nonpoint source pollution from runoff shall be retained if present and established where it does not exist."

§9VAC 10-20-130.3.a that:

> "The 100-foot wide buffer area shall be deemed to achieve a 75% reduction of sediments and a 40% reduction of nutrients."

DISCUSSION:

Although the buffer is protected from most development activities, there are certain land uses and activities that have the potential to impede the water quality functions of the buffer. Activities such as clearing for the establishment of a lawn, wholesale application of pesticides, the use of heavy equipment, and excessive storage of materials would not be consistent with the Regulations. These types of activities clearly limit the buffer's ability to retard runoff, prevent erosion, and filter nonpoint source pollution. Local governments should consider these types of activities as violations of the local Bay Act program.

EXAMPLES:

Tree damage from heavy machinery use.

The following images are examples of land uses activities in the buffer that are not consistent with the intent of the Regulations.

Heavy equipment use

These photos demonstrate the effects of the use of heavy machinery in the buffer area. The picture on the left shows scarring of a tree trunk, a common occurrance with heavy machinery use. Bark damage or other cuts can easily lead to disease and death of the tree.

The image below shows land disturbance and soil compaction that results from the use of heavy machinery. Because the majority of a tree's roots are in the top 18" of the soil, compaction can easily crush the root system and kill the tree. Where construction is authorized within the buffer, such as for

Heavy machinery compacts roots, and disturbs the soil.

shoreline erosion control or water dependent facilities, clearly marking the limits of land disturbance can help prevent damage to trees in the buffer.

Boat storage is not allowed in the RPA.

Storage of equipment and materials

This picture is an example of buffer area that is not functioning properly because of boat storage in the buffer area. In order for riparian buffers to provide adequate water quality protection, they must be properly managed to promote the growth of natural vegetation. Section 9 VAC 10-20-130.1.a. (3) requires that any non-water dependent component of a water dependent use, such as boat storage at a marina, be located outside of the RPA. Since they are an accessory use, permanent storage structures are not permitted in the 100-foot buffer area. Other examples would be storage of construction materials and equipment. Local governments have the authority under §9VAC 10-20-130.3 to require that the 100-foot buffer be established and retained in natural vegetation that performs the required water quality functions.

Clearing all woody vegetation to create a lawn is not consistent with the intent of the Regulations.

Lawn fertilization adds additional nutrients to the Bay

Clearing to establish a lawn

Clearing woody vegetation in the buffer to establish a lawn is not permitted by the Regulations. Maintained lawns do not provide all of the required buffer functions and may actually contrib-

ute to nonpoint source pollution through the application of fertilizers and pesticides associated with maintaining a lawn.

LAWN CARE ACTIVITY

While new lawns may not be created within buffer area, it is recognized that many properties have existing lawns that extend into the buffer. Property owners are encouraged to convert such lawn areas to woody vegetation or native cool season grasses that are not mowed. However, with proper and diligent maintenance, based on sound horticultural practices, an existing lawn may provide some of the required buffer functions. However, the use of nutrients and pesticides (including weed preventers) should be based on an accurate analysis of existing soil conditions and correct identification of weeds or pests before application. Soil test kits can be obtained through county extension offices to determine the need for chemical application and assure use of the proper chemicals and application rates.

Local governments should encourage programs to educate the public on proper lawn care to prevent over-fertilization and unnecessary pesticide use that can add to water quality problems. Extension agents and Master Gardeners can provide information on proper turf management, through programs such as *LawnKnowers* in Henrico County or *Water-wise Gardener* in Prince William County, to help minimize improper lawn care practices. Education in Integrated Pest Management (IPM) practices can also help minimize the use of pesticides.

Generally, a healthy forest buffer will not require the application of nutrients in the form of fertilizers, especially a buffer composed of native plants. The continuous recycling of nutrients through the growth, death, decay and reuse of organic material in the soil assures the proper nutrient level in most natural forests.

Equally important is the proper identification of insects, pests or diseases in the woodlot, prior to any pesticide use. Homeowners should be encouraged to consult an extension agent or other professional to examine any insect or disease problem. A professional can identify the pest, determine the need for chemicals and, if necessary, educate the property owner on the proper dosage and method of application. Often what may seem like a devastating infestation to a homeowner may be a natural cycle that will balance out through natural ecological controls. A small area of infestation

may be controllable by hand and not require potentially damaging chemical application. The correct identification of a problem and appropriate solution suggested by a knowledgeable person can help to avoid practices that contribute to water quality problems.

CONCLUSION:

- Any land use in the100-foot buffer that prevents the buffer from performing the required functions of retarding runoff, preventing erosion, and filtering nonpoint source pollution, should be considered inconsistent with the Regulations.
- Land uses that are authorized within the RPA should be conducted with care to avoid harmful impacts to buffer vegetation that will remain in place.
- Local governments should develop programs, or encourage use of those they have, to educate property owners about the proper care of their vegetation to prevent improper practices that may contribute to nonpoint source pollution.